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**Glenn Brown**  
Executive Director-  
Public Policy

**EX PARTE**

December 9, 1997

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DEC - 9 1997  
FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

Ms. Magalie Roman Salas, Secretary  
Federal Communications Commission  
1919 M Street, NW, Room 222, SC-1170  
Washington, DC 20554

RE: Dockets CC 96-45/97-160

Dear Ms. Roman Salas:

Today, I met separately with Kyle Dixon, Advisor to Commissioner Michael Powell, to discuss issues related to Universal Service Funding. The Attached handout was using during this meeting.

In accordance with Section 1.1206(a)(2) of the Commission's Rules, the original and four copies of this letter, are being filed with your office for inclusion in the public record for the above-mentioned proceedings. Acknowledgment of date of receipt of this transmittal is requested. A duplicate of this letter is provided for this purpose.

Please contact me if you have any questions.

Sincerely,



cc: Kyle Dixon

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# KEY ELEMENTS FOR UNIVERSAL SERVICE FUNDING

1. Structure of the Fund
  - National Fund
  - 25% Interstate / 75% Intrastate
  - Alternatives ??
2. Amount of Funding Required
  - The Proxy Cost Models
3. Targeting of Support
  - Statewide Averages
  - Wire Center Averages
  - Below the Wire Center
4. Removal of Implicit Support

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## GUIDANCE ON NETWORK DESIGN FROM THE 1996 ACT

Section 254(b) Universal Service Principles - The Joint Board and the Commission shall base policies for the preservation and advancement of universal service on the following principles:

- (2) **Access to Advanced Services** - Access to advanced telecommunications and information services should be provided in all regions of the Nation.
- (3) **Access in Rural and High Cost Areas** - Consumers in all regions of the Nation, including low-income consumers and those in rural, insular and high cost areas, should have access to telecommunications and information services, including interexchange services and advanced telecommunications and information services, that are reasonably comparable to those services provided in urban areas...
- (5) **Specific and Predictable Support Mechanisms** - There should be specific, predictable and sufficient Federal and State mechanisms to preserve and advance universal service.

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# FUNDING STRUCTURE

- The FCC Decision Requires a 75/25 Split of Funding Between the State and Federal Jurisdictions
- 75/25 Will Threaten Affordability in Some States
  - Primary Drivers:
    - Number of High Cost Customers
    - Range of Costs
    - Number of Low Cost Customers to Spread Burden Over

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## Funding Alternatives

### 1. NATIONAL FUND

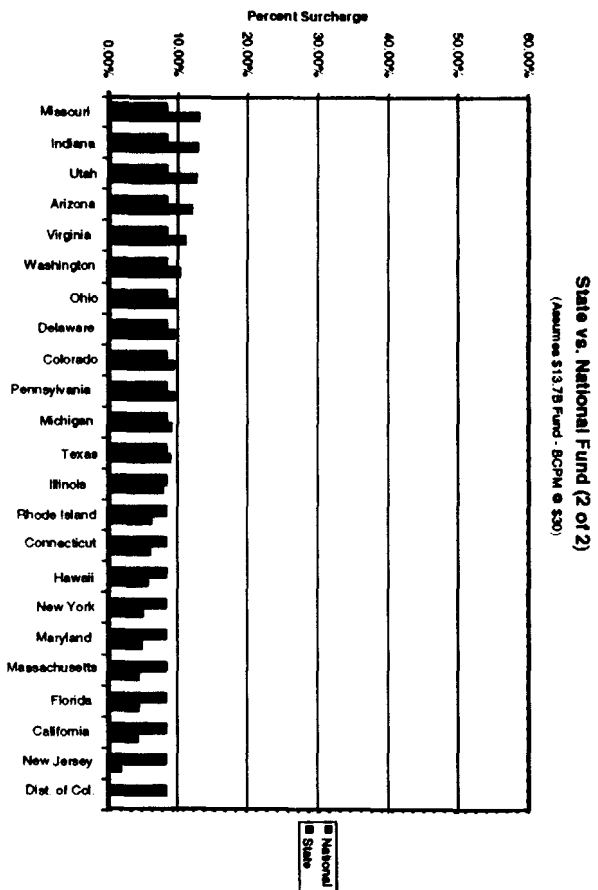
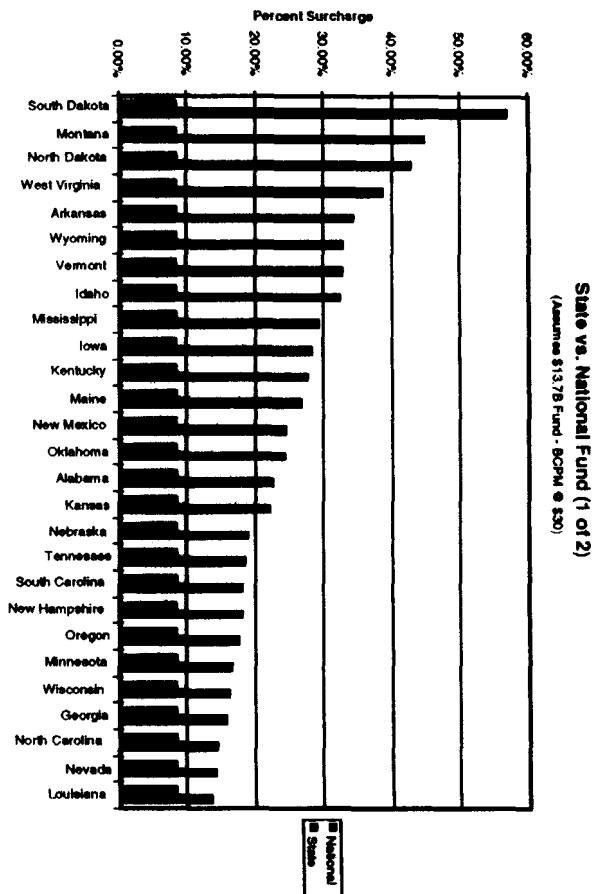
$$\text{National \%} = \frac{\text{National Funding Requirements}}{\text{State} + \text{Interstate Revenues}}$$

### 2. SEPARATE STATE AND INTERSTATE FUNDS

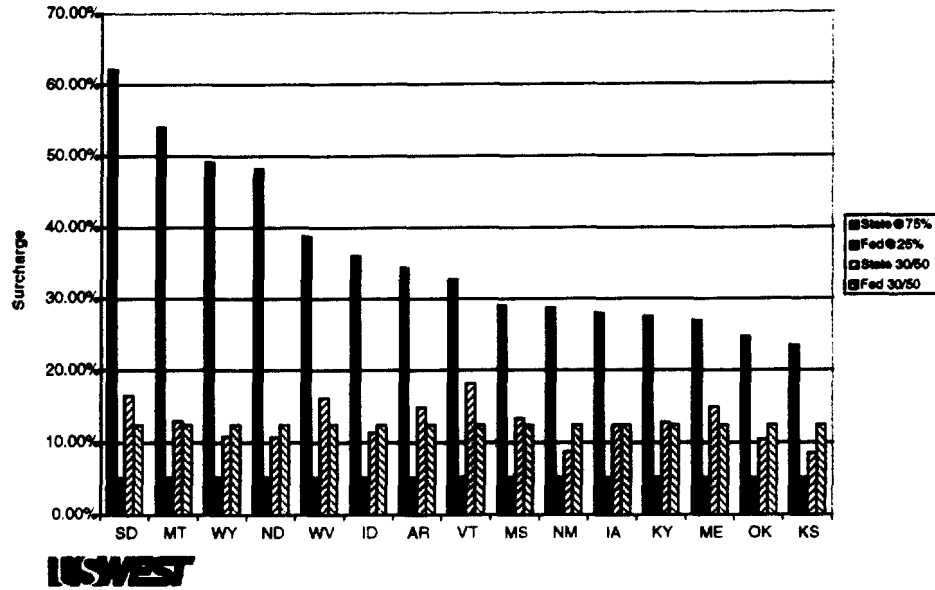
$$\text{State \%} = \frac{75\% \text{ Of State Funding Requirements}}{\text{State Revenues}}$$

$$\text{Interstate \%} = \frac{25\% \text{ Of National Funding Requirements}}{\text{Interstate Revenues}}$$

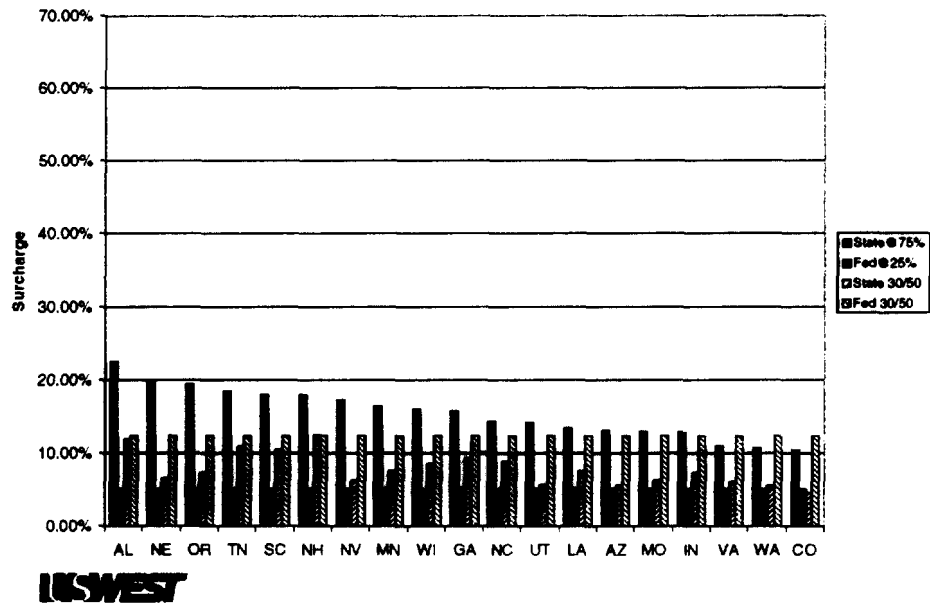
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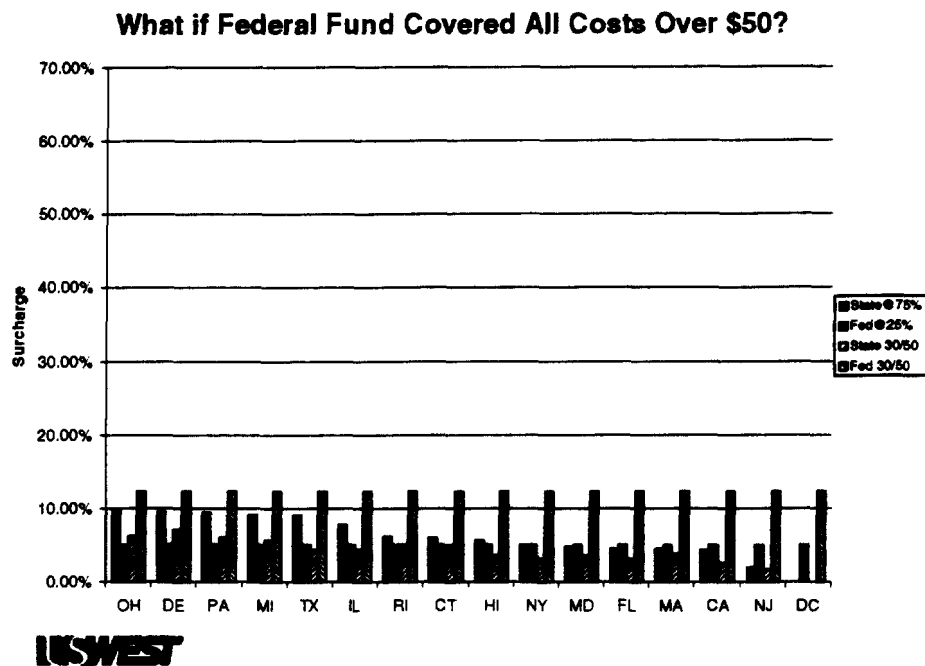


### What if Federal Fund Covered All Costs Over \$50?



### What if Federal Fund Covered All Cost Over \$50?





## THE PROXY COST MODELS

- The Contenders:
  - Hatfield Model (AT&T and MCI)
  - Benchmark Cost Proxy Model (U S WEST, BellSouth and Sprint)
- The Issues:
  - Customer Location
  - Loop Design
  - Input Factors
    - Material Prices
    - Capital Cost Factors
  - Objectives of the Study
    - Universal Service Funding
    - Unbundled Network Elements (UNEs)

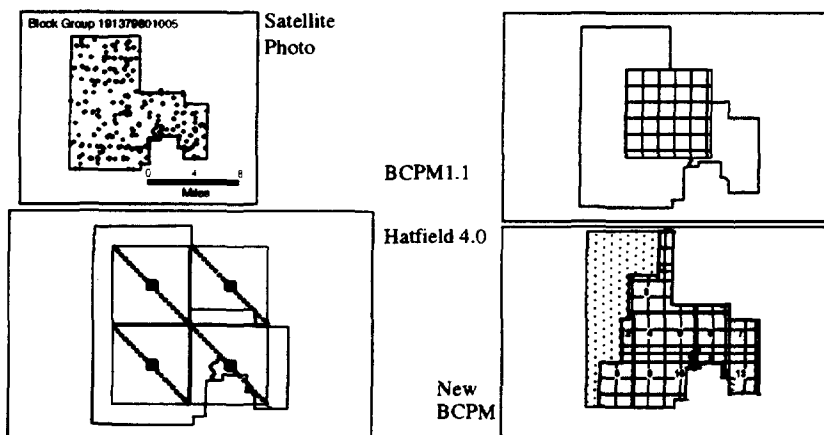
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# LOCATION AND LOOP ISSUES

- Location
  - Improved From CBGs to CBs
    - CBG = 400 Households
    - CB = Area Defined by Road Intersections
  - Geocoding??
- Loop Design
  - Maximum Copper Loop Length
  - Carrier Serving Area Design
  - Maximum Modem Speed
- Structure Sharing
  - How Many Utilities Share Construction Costs?

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## CUSTOMER LOCATION EXAMPLES



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# Maximum Modem Speeds

BELLCORE has conducted research to determine the factors which influence the maximum modem speed which a given loop can handle. Based on their findings, the following matrix predicts maximum V.34 modem speed. Points are awarded for each of seven variables:

1. CUSTOMER LOOP (each end)			POINTS
0 - 9 Kft NL = 0	9 - 12 Kft NL = 1	12 - 18 Kft NL = 3	_____
18 - 24 Kft L = 7	24 - 30 Kft L = 10	> 30 Kft L = 12	_____
2. LOOP CARRIER (each end)			_____
No DLC = 0	IDLC = 2	UDLC = 6	_____
3. SWITCH TYPE (each end)			_____
Analog = 0	Digital = 1		_____
4. INTEROFFICE FACILITY			_____
Digital Route = 2	Analog Tandem = 4	B/B - Ctr = 6	_____
TOTAL			<input type="text"/>

## SCORING:

0 - 6 = 28.8 Kbps	7 - 9 = 26.4 Kbps	10 - 13 = 24.0 Kbps	14 - 16 = 21.6 Kbps
17 - 20 = 19.2 Kbps	21 - 25 = 14.4 Kbps	26 - 30 = 9.6 Kbps	

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# STRUCTURE SHARING

- LECs DO HAVE SOME OPPORTUNITY TO SHARE STRUCTURES
  - Primarily for distribution facilities in new residential subdivisions
  - Rarely for feeder plant
  - BCPM includes reasonable estimates for sharing (e.g., 50% for poles)
- HATFIELD EMPLOYS UNREASONABLE SHARING ASSUMPTIONS
  - The best case is assumed in every case, distribution and feeder, aerial and buried
  - For each new customer, one to three other utilities appear instantaneously
  - These other utilities require no high-cost assistance, even in the most costly areas
- THIS APPROACH SPELLS TROUBLE FOR UNIVERSAL SERVICE
  - Network providers will only be compensated for 1/4 to 1/2 of the cost of serving high-cost areas
  - Network providers will be unwilling to build to high-cost customers
  - Rural rates will be forced to rise

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## PUTTING IT IN PERSPECTIVE

### 1. "FORWARD-LOOKING" INVOLVES CERTAIN CONCESSIONS TO REALITY:

- Networks aren't built with one "efficient" build-out
- Planners do not have perfect knowledge
- Today's "forward-looking" is tomorrow's "embedded"

### 2. THE HATFIELD MODEL ASSUMES THE MOST OPTIMISTIC CASE IN EVERY CASE:

- Perfect structure sharing
- Eclectic mix of state-of-the-art and antiquated technologies, running flat-out
- The Hatfield network exists in the mind of the economist, not the world of the engineer

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## PUBLIC POLICY PERSPECTIVES

### UNE PRICING

#### MAJOR OBJECTIVES

- Encourage local market entry
- Price at cost (TELRIC)
- Keep the costs low

#### IF COSTS ARE UNDERESTIMATED

- More competitors enter market (through resale)
- Adverse financial impact to the incumbent

#### IF COSTS ARE OVERESTIMATED

- Local entry discouraged

### UNIVERSAL SERVICE

#### MAJOR OBJECTIVES

- "Specific, Predictable and Sufficient" support
- Affordable rural service
- Access to advanced services

#### IF COSTS ARE UNDERESTIMATED

- Providers will not construct facilities to serve high-cost rural areas
- Rural rates will rise
- Rural customers will not have access to advanced services

#### IF COSTS ARE OVERESTIMATED

- ILECs and others will overpay to fund
- "Gaming" of the system

*UNE pricing may involve incentives to err on the low side. However underestimation of costs for universal service support can have severe public policy consequences. The Hatfield model was developed primarily for UNE pricing, and tends to understate costs. The BCPM attempts to neither understate nor overstate forward-looking costs.*

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